

(c) Each applicant filing pursuant to paragraph (c) of this section must also ascertain in advance whether the beam of his proposed antenna(s) intersects the beam of any Earth station antenna within the rain scatter coordination distance contour of which the terrestrial antenna is located, below the altitude given in table 1 of Sec. 25.254(b) of this chapter for the rain climate in which the Earth station is located. In general such intersections will not be permitted. For the purposes of this paragraph, the beam of an antenna is to be taken as that portion of the antenna radiation pattern inside of which the gain is within 15 dB of the maximum antenna gain. The concepts of rain climate and rain scatter coordination distance contour are as defined in Sec. 25.254 of this chapter. In certain cases, for good cause shown, intersections may be permitted on an individual waiver basis. In such cases, the applicant must also submit with his application a showing setting forth (1) the nature of the proposed beam intersection, (2) the Earth station operator or applicant with whom coordination was attempted and the results of the coordination, and (3) the technical basis on which it was concluded that harmful interference will not likely result from this beam intersection.

§ 101.715 Stations at temporary fixed locations.

(a) Authorizations may be issued upon proper application for the use of frequencies listed in § 101.703(a) by stations in the Point-to-Point Microwave Radio Service for rendition of temporary service to subscribers under the following conditions:

(1) When a fixed station is to remain at a single location for less than six months, the location is considered to be temporary. Services which are initially known to be of longer than 6 months' duration may not be provided under a temporary fixed authorization but rendered pursuant to a regular license.

(2) When a fixed station, authorized to operate at temporary locations, is to remain at a single location for more than six months, an application (FCC Form 494) for a station authorization designating that single location as the permanent location must be filed at least 30 days prior to the expiration of the six-month period.

(3) The station must be used only for rendition of communication service at a remote point where the provision of wire facilities is not practicable.

(4) The antenna structure height employed at any location may not exceed the criteria set forth in Sec. 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure height for each location has been obtained from the Commission prior to erection of the antenna. See § 101.125.

(b) Applications for authorizations to operate stations at temporary locations under the provisions of this section must be made upon FCC form 494. Blanket applications may be submitted for the required number of transmitters.

§ 101.717 Notification of station operation at temporary fixed locations.

(a) The licensee of stations which are authorized pursuant to the provisions of § 101.715 must notify the Commission at least 5 days prior to installation of the facilities, stating:

(1) The call sign, manufacturer's name, type or model number, output power and specific location of the transmitter(s).

(2) The maintenance location for the transmitter.

(3) The location of the transmitting or receiving station with which it will communicate and the identity of the correspondent operating such facilities.

(4) The exact frequency or frequencies to be used.

(5) The public interest, convenience and necessity to be served by operation of the proposed installation.

(6) The commencement and anticipated termination dates of operation from each location. In the event the actual termination date differs from the previous notification, written notice thereof promptly must be given to the Commission.

(7) A notification must include compliance with the provisions of § 101.713 (c) when operations are to be conducted in the area of other terrestrial microwave stations and with the provisions of § 101.713(c) and

(d) when operations are to be conducted within the coordination distance contours of a fixed earth station.

(8) Where the notification contemplates initially a service which is to be rendered for a period longer than 90 days, the notification must contain a showing as to why application should not be made for regular authorization.

(b) Less than 5 days advance notice may be given when circumstances require shorter notice provided such notice is promptly given and the reasons in support of such shorter notice are stated.

(c) A copy of the notification must be kept with the station license.

§ 101.719 Renewal of station licenses.

(a) An application for renewal of a station license in the Point-to-Point Microwave Radio Service primarily used to relay television signals must contain:

(1) A statement that such use complies with § 101.701(b); and

(2) The demonstration required by § 101.701(c). Applications that do not contain these items as appropriate will be returned as unacceptable for filing.

(b) Any application for renewal of license, for a term commencing January 1, 1975, or after, involving facilities utilizing frequency diversity must contain a statement showing compliance with § 101.103(c) or the exceptions recognized in paragraph 141 of the "First Report and Order" in Docket No. 18920 (FCC 71-547). If not in compliance, a complete statement with the reasons therefor must be submitted.

§ 101.721 Channel loading.

.Except for video transmission, an application for an initial working channel for a given route will not be accepted for filing where the anticipated loading (within 30 months for data and five years for voice, or other period subject to reasonable projection) is less than the minimum specified for the following frequency bands. Absent extraordinary circumstances, applications proposing additional frequencies over existing routes will not be granted unless it is shown that the traffic load will shortly exhaust the capacity of the existing equipment. For the 3700-4200 MHz band, all persons intending to utilize baseband frequencies above 7.3 MHz, or to operate with more than 1500 equivalent 4 kHz voice channels per radio channel, must submit evidence of coordination pursuant to § 101.103(d). Where no construction of radio facilities is requested, licensees must submit this evidence with their filing of any necessary authority required pursuant to section 214 of the Communications Act and Part 63 of this chapter.

Frequency band (MHz)	Minimum number of voice channels (4 kHz or equivalent)	Minimum original data loading (Mb/s)
3700 to 4200 (20 MHz bandwidth)	900*	44.7
5925 to 6425 (10 MHz bandwidth)		22.3
5925 to 6425		44.7

(20 MHz bandwidth) 5925 to 6425	900*	67.0
(30 MHz bandwidth) 10,700 to 11,700		
(10 MHz bandwidth) 10,700 to 11,700	240	22.3
(20 MHz bandwidth) 10,700 to 11,700	240	44.7
(30 MHz bandwidth) 10,700 to 11,700	900*	44.7
(40 MHz bandwidth) 10,700 to 11,700	900*	67.0

* Where transmitters employing digital modulation techniques are designed to be used so that two may simultaneously operate on the same frequency over the same path, the minimum number of voice channels is reduced to 500 per transmitter.

§ 101.723 Special requirements for operation in the band 38,600-40,000 MHz.

Assigned frequency channels in the band 38,600-40,000 MHz may be subdivided and used anywhere in the authorized service area, subject to the following terms and conditions:

- (a) No interference may be caused to a previously existing station operating in another authorized service area.
- (b) Each operating station must have posted a copy of the service area authorization.
- (c) The antenna structure height employed at any location may not exceed the criteria set forth in Sec. 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure for each location has been obtained from the FAA prior to the erection of the antenna.

Subpart J—Local Television Transmission Service

§ 101.800 Eligibility.

Authorizations for stations in this service will be granted to existing and proposed communication common carriers. Applications will be granted only in cases where it is shown that (a) the applicant is legally, financially, technically and otherwise qualified to render the proposed service, (b) there are frequencies available to enable the applicant to render a satisfactory service, and (c) the public interest, convenience or necessity would be served by a grant thereof.

§ 101.801 Frequencies.

(a) Frequencies in the following bands are available for assignment to television pickup and television non-broadcast pickup stations in this service:

6,425 to 6,525 MHz./6/
11,700 to 12,200 MHz./3/
13,200 to 13,250 MHz./1/
14,200 to 14,400 MHz.
21,200 to 22,000 MHz./1./2./4./5/
22,000 to 23,600 MHz./1./2./5/
31,000 to 31,300 MHz./7/

/1/ This frequency band is shared with fixed and mobile stations licensed under this and other parts of the Commission's Rules.

/2/ This frequency band is shared with Government stations.

/3/ This frequency band is shared, on a secondary basis, with stations in the broadcasting-satellite and fixed-satellite services.

/4/ This frequency band is shared with stations in the earth-exploration satellite service.

/5/ Assignments to common carriers in this band are normally made in the segments 21,200-21,800 MHz and 22,400-23,800 MHz and to operational fixed users in the segments 21,800-22,400 MHz and 23,000-23,600 MHz. Assignments may be made otherwise only upon a showing that interference free frequencies are not available in the normally assigned band segments. The maximum power for the local television transmission service in the 14.2-14.4 GHz band is +45 dBW except that operations are not permitted within 1.5 degrees of the geostationary orbit.

/6/ This band is co-equally shared with mobile stations licensed pursuant to Parts 74 and 78, and Subpart H of this part of the Commission's rules.

/7/ Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted.

(b) Communications common carriers in the Local Television Transmission Service may be assigned frequencies listed in Secs. 74.602(a), 78.18(a)(7) and 78.18(a)(8) to provide service to television

broadcast stations, television broadcast network-entities, cable system operators and cable network-entities. Frequency availability is subject to the provisions of Sec. 74.604 and the use of the facility is limited to the permissible uses described in Secs. 74.631 and 78.11. Operations on these frequencies are subject to the technical provisions of Part 74, Subpart F, and Part 78, Subpart D of this chapter.

(c) [Reserved]

(d) Frequencies in the following bands are available for assignment to television STL stations in this service:

3,700 to 4,200 MHz /1/ 21,200 to 22,000 MHz /2/, /4/, /7/, /8/
5,925 to 6,425 MHz /1/, /5/ 22,000 to 23,600 MHz /2/, /6/, /8/
10,700 to 11,700 MHz /1/, /6/ 31,000 to 31,300 MHz /9/
13,200 to 13,250 MHz /2/

/1/ This frequency band is shared with stations in the Point to Point Microwave Radio Service and, in United States Possessions in the Caribbean area, with stations in the International Fixed Radiocommunications Services.

/2/ This frequency band is shared with fixed and mobile stations licensed under this and other parts of the Commission's rules.

/3/ This frequency band is shared with space stations (space to earth) in the fixed-satellite service.

/4/ This frequency band is shared with Government stations.

/5/ This frequency band is shared with earth stations (earth to space) in the fixed-satellite services.

/6/ The band segments 10.95-11.2 and 11.45-11.7 GHz are shared with space stations (space to earth) in the fixed-satellite service.

/7/ This frequency band is shared with space stations (space to earth) in the earth exploration satellite service.

/8/ Assignments to common carriers in this band are normally made in the segments 21,200-21,800 MHz and 22,400-23,000 MHz and to operational fixed users in the segments 21,800-22,400 MHz and 23,000-23,600 MHz. Assignments may be made otherwise only upon a showing that interference free frequencies are not available in the appropriate band segments.

/9/ Frequencies in this band are co-equally shared with stations in the Auxiliary Broadcasting (Part 74), Cable Television Relay (Part 78), Private Operational-Fixed Microwave (Subpart H) and General Mobile Radio (Part 95) Services.

(e) 31.0 to 31.3 GHz. These frequencies are shared on a co-equal basis with other stations in the fixed and mobile services (see Parts 74, 78, and 95, and Subpart H). No interference protection is afforded to fixed or mobile stations operating in this band.

(1) 25 MHz authorized bandwidth channels, 150 MHz separation.

Transmit (receive) (MHz)	Receive (transmit) (MHz)
31,012.5	31,162.5
31,037.5	31,187.5
31,062.5	31,212.5
31,087.5	31,237.5
31,112.5	31,262.5
31,137.5	31,287.5

(2) 50 MHz authorized bandwidth channels, 150 MHz separation.

Transmit (receive) (MHz)	Receive (transmit) (MHz)
31,025.0	31,175.0
31,075.0	31,225.0
31,125.0	31,275.0

(f) On the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations, persons holding valid station authorizations on July 15, 1963, to provide television nonbroadcast pickup service in the 6525-6575 MHz band may be authorized to continue use of the frequencies specified in their authorization for such operations until July 15, 1968.

(g) 6425 to 6525 MHz--Mobile Only. Paired and un-paired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or for multi-channel cable distribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to Parts 74 and 78 of the Commission's Rules. The following channel plans apply.

(1) 1 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6425.5	6475.5
6450.5	6500.5

(2) 8 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6430.0	6480.0
6438.0	6488.0
6446.0	6596.0
6455.0	6505.0

6463.0	6513.0
6471.0	6521.0

(3) 25 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6437.5 6487.5
6462.5 6512.5

(h) The frequency 27.255 MHz in the 27.23-27.28 MHz band is allocated for assignment to microwave auxiliary stations in this service on a shared basis with other radio services. Assignments to stations on this frequency will not be protected from such interference as may be experienced from the emissions of industrial, scientific and medical equipment operating on 27.12 MHz in accordance with Sec. 2.106 of this chapter.

§ 101.802 Assignment of frequencies to mobile stations.

The assignment of frequencies to mobile stations in this service will not be limited to a single licensee within any area. However, geographical limits within which mobile units may operate may be imposed by the Commission.

§ 101.803 Transmitter power.

Stations in this service will not be authorized to use transmitters having a rated power output in excess of the limits set forth in § 101.113(b) and a standby transmitter having a rated power output in excess of that of the main transmitter with which it is associated will not be authorized.

§ 101.804 Bandwidth and emission limitations.

(a) Stations in this service operating on frequencies in the 27.23-27.28 MHz band will be authorized to employ only amplitude modulated or frequency modulated emission for radiotelephony. The authorization to use such emissions will be construed to include authority to employ unmodulated emission only for temporary or short periods necessary for equipment testing incident to the construction and maintenance of the station.

(b) Stations in the service operating on frequencies above 940 MHz may be authorized to use amplitude modulated, frequency modulated or pulse type of emission for radiotelephony and television. In addition, the use of unmodulated emission may be authorized in appropriate cases.

(c) The maximum bandwidths which will normally be authorized for single channel operation on frequencies below 500 MHz in this service must not exceed the limits set forth below.

Type of emission	Authorized bandwidth (kHz)
A3E	8
F3E or (G3E)	40

(d) Maximum bandwidths in the following frequency bands must not exceed the limits set forth below.

Frequency band (MHz)	Maximum authorized bandwidth (MHz)
3,700 to 4,200	20
5,925 to 6,425	30
6,425 to 6,525	25
10,700 to 12,200	40
13,200 to 13,250	25
22,000 to 23,600	100

(e) The bandwidths authorized on frequencies above 500 MHz must be appropriate to the type of operation in any particular case. An application requesting such authorization must fully describe the modulation, emission, and bandwidth desired and must specify the bandwidth to be occupied.

§ 101.805 Modulation requirements.

(a) The use of modulating frequencies higher than 3000 hertz for single channel radiotelephony or tone signaling on frequencies below 500 MHz is not authorized.

(b) When amplitude modulation is used, the modulation percentage must be sufficient to provide efficient communication and must normally be maintained above 70 percent on positive peaks, but may not exceed 100 percent on negative peaks.

(c) When phase or frequency modulation is used for single channel radiotelephony on frequencies below 500 MHz, the deviation arising from modulation may not exceed plus or minus 15 kHz from the unmodulated carrier.

(d) Each unmultiplexed radiotelephone transmitter having more than 3 watts plate power input to the final radio frequency stage and initially installed at the station in this service after September 4, 1956, must be provided with a device that will automatically prevent modulation in excess of that specified in paragraphs (b) and (c) of this section which may be caused by greater than normal audio level.

§ 101.806 Remote control operation of mobile television pickup stations.

(a) Mobile television pickup stations (including nonbroadcast) may be operated by remote control from the fixed locations for periods not to exceed 6 months.

(b) The Commission may, upon adequate showing by the licensee as to why the television pickup operations should not be conducted under a fixed station authorization, renew the authority granted under the provisions of paragraph (a) of this section.

(c) Reference should be made to § 101.125 concerning mobile station antenna height restrictions and to paragraphs (c) and (f) of § 101.131 concerning control points.

§ 101.807 Stations at temporary fixed locations.

(a) Authorizations may be issued upon proper application for the use of frequencies listed in Sec. 101.803

by stations in the Local Television Transmission Service for rendition of temporary service to subscribers under the following conditions:

(1) When a fixed station is to remain at a single location for less than 6 months, the location is considered to be temporary. Services that are initially known to be of longer than 6 months' duration may not be provided under a temporary fixed authorization but rendered pursuant to a regular license.

(2) When a fixed station authorized to operate at temporary locations is installed and it subsequently becomes necessary for the station to operate from such location for more than six months, application FCC Form 494 for a station authorization to specify the permanent location must be filed at least thirty days prior to the expiration of the six month period.

(3) The station must be used only for rendition of communication service at a remote point where the provision of wire facilities is not practicable.

(4) The antenna structure height employed at any location may not exceed the criteria set forth in § 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure height for each location has been obtained from the Commission prior to erection of the antenna. See § 101.125.

(5) Applications for such stations must comply with the provisions of § 101.713.

(b) Applications for authorizations to operate stations at temporary locations under the provisions of this section may be made upon FCC Form 494. Blanket applications may be submitted for the required number of transmitters.

(c) Prior coordination of mobile assignments will be in accordance with the procedures in § 101.103(d) except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

§ 101.808 Notification of station operation at temporary locations.

(a) The licensee of stations authorized pursuant to § 101.813 must notify the Commission prior to each period of operation. This notification may be oral or written and must include:

(1) The call sign, manufacturer's name, type or model number, output power and specific location of the transmitter(s).

(2) The maintenance location for the transmitter.

(3) The location of the transmitting or receiving station with which it will communicate and the identity of the correspondent operating such facilities.

(4) The exact frequency or frequencies to be used.

(5) The public interest, convenience and necessity to be served by operation of the proposed installation.

(6) The commencement and anticipated termination dates of operation from each location. In the event the actual termination date differs from the previous notification, written notice thereof promptly must be given to the Commission.

(7) Where the notification contemplates initially a service that is to be rendered for a period longer than 90 days, the notification must contain a showing as to why application should not be made for regular authorization.

(8) A notification must include compliance with the provisions of § 101.813(c).

(b) A copy of the notification must be kept with the station license.

§ 101.809 Stations affected by coordination contour procedures.

In frequency bands shared with the communication-satellite service, applicants must also comply with the requirements of § 101.713.

APPENDIX B

Cross Reference Table

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		21.45	101.67
		21.50	101.69
Subpart A—General			
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21.2	101.3	Section	Section
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21.3	101.5	21.100	101.103
21.4	101.7	21.101	101.107
21.5	101.9	21.102–21.104	Deleted.
21.6	101.11	21.105	101.109
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21.11	101.15	21.108(a)–(d)	101.115(a)–(d)
21.12	Deleted.	21.108(e)	101.145
21.13	101.19	21.109	Deleted.
21.14	Deleted.	21.110	101.117
21.15	101.21	21.111	101.119
21.16	Deleted.	21.112	101.121
21.17	Deleted.	21.113	101.123
21.18	Deleted.	21.114	101.125
21.19	101.23	21.115	Deleted.
21.20	101.35	21.116	101.127
21.21	101.25	21.117	101.129
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21.24	Deleted.	21.120	101.139
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21.30	101.43	21.201	Deleted.
21.31	101.45	21.202–21.208	Deleted.
21.32	101.47	21.209	101.205
21.33	101.49	21.210	101.207
21.34	Deleted.	21.211	101.209
21.35	101.51	21.212–21.213	Deleted.
21.36–21.37	Deleted.	21.214	101.211
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21.307	101.311

Present Section	Proposed Section
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21.405	101.411
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Subpart H—[Reserved]

Subpart I—Point-to-Point Microwave Radio Service

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21.710(a-c)	101.145
21.710(d)	101.721
21.711	101.723

21.713	Deleted
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Subpart K—Multipoint Distribution Service
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Part 94

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94.9	101.603
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94.11(b)	101.205
94.13	101.137
94.15(a)	101.103(a)
94.15(b)-(d)	Deleted.
94.15(e)	101.605
94.15(f)	101.605
94.15(g)	101.605
94.15(h)	Deleted.
94.15(i)(j)	Deleted.
94.17	101.135
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94.25(d)	101.13(b)
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94.25(h)	101.603(b)(3)

94.25(i)	101.123
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94.27	101.13
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94.31(h)	101.121
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Present Section	Proposed Section
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